Detail of Fresco in Sistine Chapel Rome By Michelangelo, 1508, A. D.

LIME PLASTER

MONARCH FINISHING LIME

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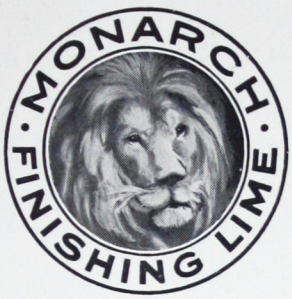
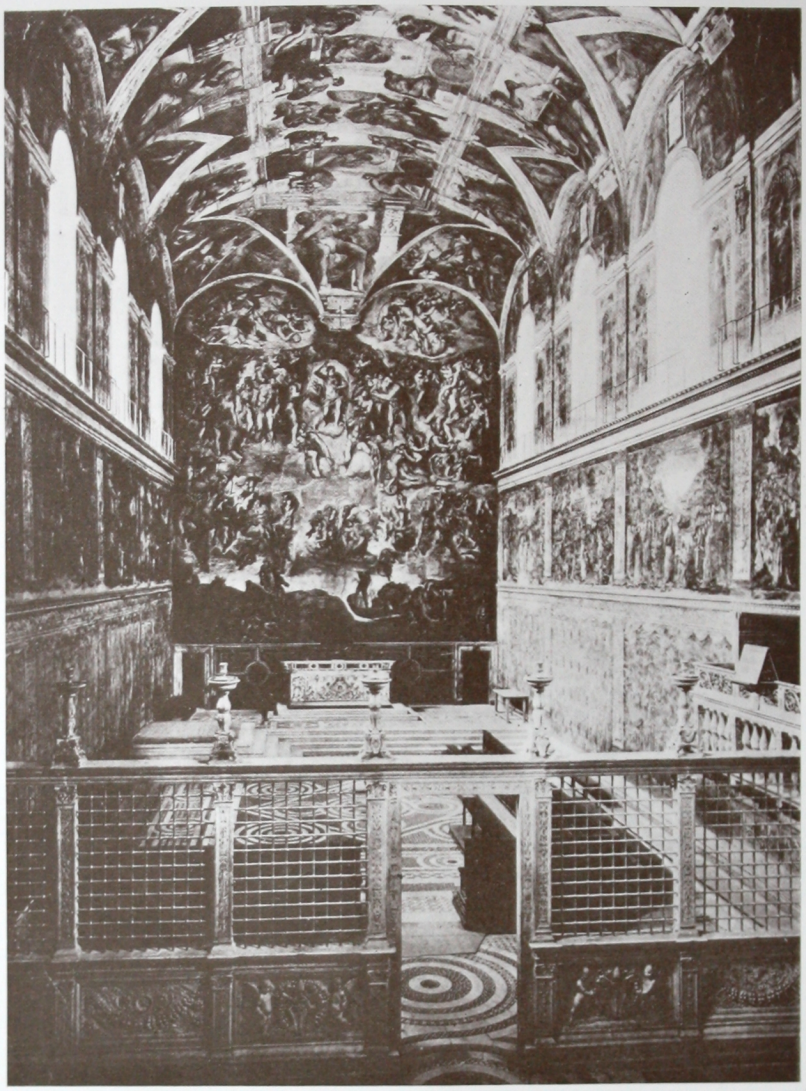


Charter Members of the
Finishing Lime Association of Ohio

FINDLAY, OHIO

1928



Ceiling in Sistine Chapel, Rome by Michelangelo, 1508, A. D.

Lime Plaster for Lasting Structures

IMMORTAL of the immortals—Michelangelo Buonarrati! The astute Angelo chose media for his works that would endure throughout the ages. From the hill of San Miniato his David, cast in bronze, looks down on Florence. Its classic beauty is as perfect as the day it left his hand. In Rome the vaulted ceilings of the Sistine Chapel are glorified by his frescoes. Luminous masterpieces, perfectly preserved, the lime plaster on which they were painted proving as enduring as the bronze. No mold mars the perfection of the surface, no crumbling imperils these priceless treasures. Imperishable bronze! Imperishable lime!

How great is civilization's debt to the permanence of the materials used by the builders of the past. But for the hieroglyphics and pictorial histories still legible on the walls and ceilings of ancient buildings, all but comparatively recent history would be lost. But because the walls of their tombs and temples still survive—the glory that was Egypt's, the wisdom of Greece, the splendor of Rome, the religious fervor of the Renaissance, are as familiar as contemporary history.

The desire to endure longer than his brief span of years is deeply rooted in the heart of man. It has conceived religions, it actuated those ancient builders whose architecture has preserved their culture and customs for posterity. And it is well worth while for us to give consideration to the orders, design and materials, especially the durability of those materials, used in the past. That the materials were durable there can now be no doubt,—they stand before our eyes. Marble and porphyry, bronze and gold in prodigal splendor,—and measuring up to the test of time as truly and fully as the marble, the lime plaster used in the construction of these edifices is still intact.

This is an era of substitution. Substitution, particularly where time and expense elements are involved. Lime Plaster as well as other proven materials, has felt the impact of this competition. But in this case competition induced progress. A unique deposit of limestone was discovered in Northwestern Ohio. Factory methods of slaking were worked out and perfected. Plants and manufacturing processes were placed under laboratory control and constantly improved. High quality always sought for has become standardized, resulting in a national demand for, and distribution of, Ohio Finishing Lime, the highest quality of lime ever produced anywhere.

The National Lime & Stone Company, taking advantage of the purity, plasticity, strength and durability of Ohio Finishing Lime, has made lime plaster suitable for today's use, by adding hair and gauging material to finishing lime at the factory. By combining quality with convenience, efficiency and economy, it has overcome the handicap of price and speed, so that again the practicability, durability and potential beauty of lime plaster is available. For that building which is to endure—you can use NATIONAL Finishing Lime Plaster with the utmost confidence that you will secure all the advantages of lime plaster and the greatest value per construction dollar.

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In Church Buildings the Acoustics of Finishing Lime Plaster are Important

Advantages of Finishing Lime Plaster

Acoustics

To secure good acoustics it is necessary to place on walls and ceilings a material which not only lends itself to decorative and architectural treatment, but which also has sufficient power of absorption to deaden sound waves.

National Finishing Lime Plaster permits of the finest craftsmanship in application—it lends itself perfectly to varied decorative treatments, its relatively high absorptive power is produced by its cellular structure.

When the mixing water dries out of finishing lime plaster it leaves countless air cells, which absorb sound waves as a sponge absorbs water. Auditoriums have been erected, correctly designed and proportioned, but plastered with a dense non-absorptive plaster, with resultant echoes and sound interference, which make the structure unsatisfactory to artist and audience. Attempts to correct this condition by installing so-called acoustical materials are always expensive and in many cases unsatisfactory. The efficient way to secure satisfactory auditory reception is to use finishing lime for all plaster coats.

Sound Deadening

The suppression of transmitted noise is especially important in schools, apartments, hotels and office buildings. Thoughtful architects appreciate the force of Professor Knudsen's conclusion that "every admissible means should be utilized for the elimination or insulation of disturbing noises," in his recent work on the effect of noise on human efficiency and health.

The tests of Professor Osborn at the University of Washington show that on various types of partition backings—cinder tile, gypsum block, clay tile and metal lath, hard plasters transmit about four times the amount of sound as is transmitted through the same thickness of gauged lime plaster, on the same backings. Here again the cellular nature of lime plaster functions satisfactorily, both echoes and noise being reduced to a minimum by this basic building material. National is a factory gauged finishing lime plaster, it comes uniformly correct, ready to use.

Protection to Metal Lath

The use of metal lath is widespread and is increasing constantly. Gypsum Plaster in the presence of moisture corrodes and soon destroys metal. Moisture can come from hidden leaks or condensation—often it is not apparent until the damage is done. Lime by its very chemical composition prevents corrosion and rust, it preserves metal lath. No plaster can endure if its backing is not permanent. National Finishing Lime Plaster spreads well on metal lath, it gives a splendid key, it hardens promptly into an enduring "reinforced plaster," it is safe—moisture can not harm it.

Ohio Finishing Hydrated Lime

The peculiar advantages of Ohio Finishing Lime over ordinary lime are described on the following pages. By using true Finishing Lime in the production of National Finishing Lime Plaster all these splendid qualities of uniform plasticity, spread, strength, durability and economy are secured.

For Theatres, Finishing Lime Plaster is widely used

The particular Advantages of Ohio Finishing Lime

IN a small area in Northwestern Ohio nature deposited a high magnesium limestone which is found in no other part of the world. A circle twenty miles in radius will circumscribe this deposit. Lime produced from this rock is unusually plastic. Through the manufacturing technique developed by twenty-five years of striving for the highest possible plasticity and uniformity, other desirable properties have been developed. For every construction need Ohio Finishing Lime stands supreme.

Purity and Uniformity

MONARCH Finishing Lime is exceptionally high in magnesia content. It is pure white in color, due to the exceptional purity of the stone from which it is made and the scientific skill and care used in its production. At the MONARCH plants every piece of stone is hand picked before it goes to the kilns. Every lump of burned lime is hand picked before it is hydrated. The hydrators have every modern device to secure complete hydration under uniform conditions—the finished product is floated to the packer bins on a current of air. Expert supervision is constant and vigilant. Thoroughly equipped laboratories sample and test continuously. They guide the operators and the laboratories' decision on the finished product is final. Every carload must pass our rigid tests, as well as the specifications of the American Society for Testing Materials and the Finishing Lime Association of Ohio. It is a far cry from the familiar stone kiln on the side of a hill, making lime for the immediate neighborhood, to the huge, modern, semi-automatic finishing lime plants at Carey, Ohio, whose product serves the nation.

Strength

Ohio Finishing Limes, due to their high magnesia content, are cool slaking limes. Hydrates made from these limes are cool and unburned. They give uniform putty yields, which have low shrinkage. When made into a mortar they have about three times the compressive strength of ordinary high calcium limes. Exact tests on this point were conducted by the Bureau of Standards and are published in the Proceedings of the American Society for Testing Materials 14, page 339, 1914.

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Demonstration of Monarch Finishing Lime by Mark Knowles of the Building Trade School, Detroit, Mich.

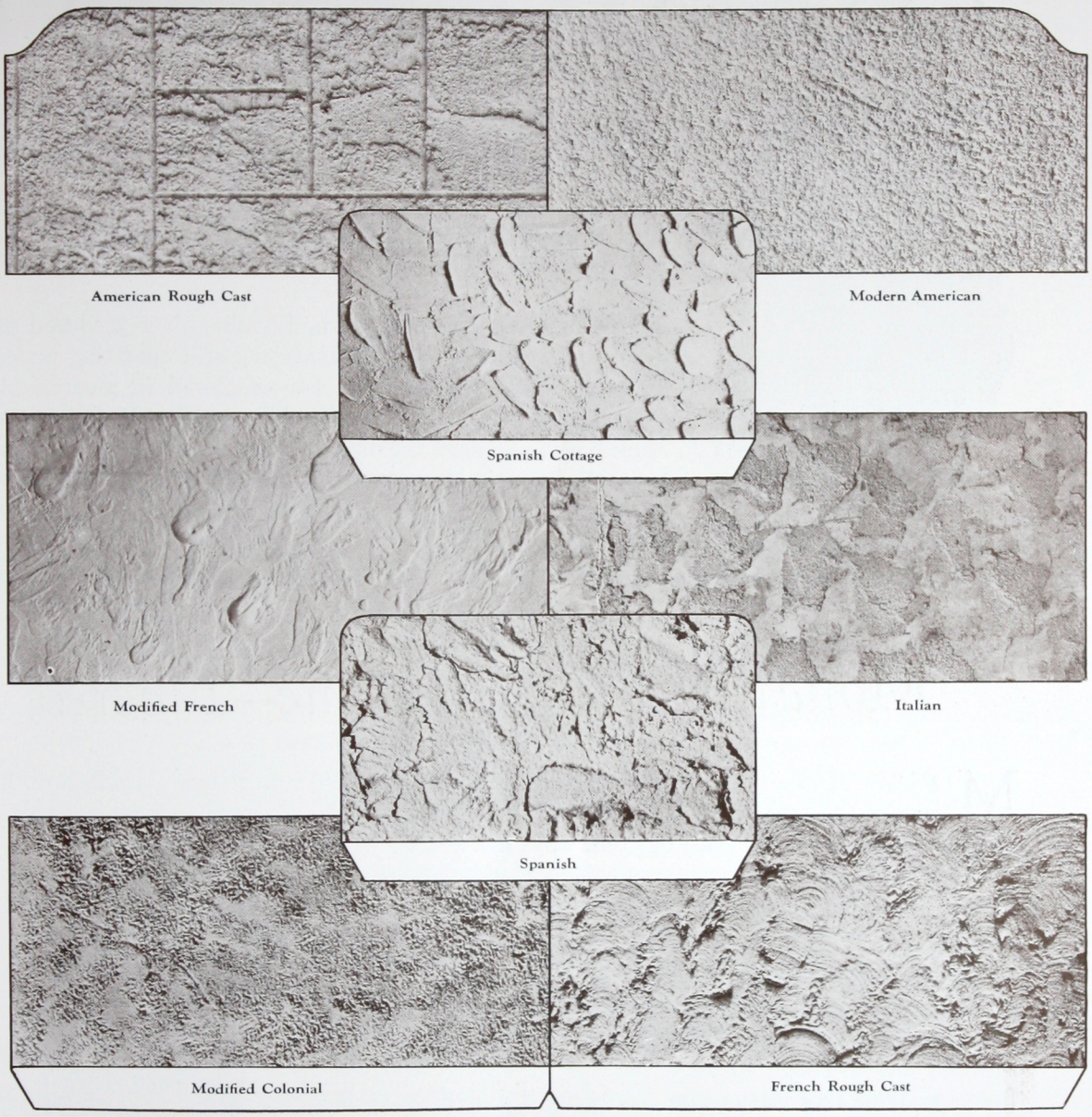
Plasticity

Purity, uniformity, strength and color are important, but it is the marvelous plasticity of Ohio Finishing Lime that has made it the pre-eminent material for finishing plaster coats throughout America. The illustration tells the story exactly. An overnight soaking of MONARCH Finishing Lime produces a firm, fat putty—one trowelfull, and one sweep of the arm produced the result shown.

Economy

The splendid plasticity of Ohio Finishing Lime saves labor. It spreads easily and is quickly trowelled to the desired finish. Being a completely manufactured product, it is easily and quickly prepared for use—no slacking boxes and ageing vats are needed. In congested areas a sufficient number of sacks can be stock piled on each floor—and soaked to a putty and used as needed. There is no waste in material or labor. A striking example of the adage, "the best is the cheapest."

Textured Finishes



MANY especially prepared plaster finishes are now being promoted for use in obtaining colored textures. Their use is not economical, as they are sold at an extremely high price and also carry special handling or express charges. Usually their base is Ohio Finishing Lime. Any competent plasterer can secure the same textures and colors, by using the regular materials usually found in building supply dealers' stocks—MONARCH Finishing Lime, gauging plaster and standard mortar colors. The variety to be secured in this manner is limited only by the Architect's imagination.

THE COMPLETE

Monarch Finishing Lime—a pioneer Ohio Hydrate

MONARCH is a trademark of quality. It is produced by the oldest company in the industry still operating under the same name and management. Manufactured in modern plants, where every safeguard is provided to preserve its purity, MONARCH Finish will meet the most exacting tests and specifications. It has earned a nationwide preference on the part of plasterers by its unfailing uniform putty yield, plasticity, soundness and strength. Either as a decoration in the newer textures or as a "white coat" decorative base MONARCH is unexcelled. It may be specified for any finish in the finest buildings with the utmost confidence.

Monarch Finishing Lime—Fibered

MONARCH Finishing Lime Fibered is a new and advanced step in lime manufacture. It has received an enthusiastic welcome because it was produced to serve a definite demand. Lime and hair are used today in many different ways just as they have been used for ages. Now machinery eliminates the tedious, uncertain, expensive hand mixing of these two materials.

MONARCH Finishing Lime, thoroughly and uniformly mixed with an abundance of hair, comes in a single ready-to-use sack. It may be gauged on the job to meet your specifications. When you use it you are assured of the quality of the lime and of the quantity and thorough mixing of the fiber. Architects who have been specifying lime plaster base coats gauged with Keene's cement will find this product a real aid in securing favorable plastering bids, as it saves time, trouble and expense for the plastering contractor. High quality is now coupled with convenience and economy.

Charter Members of the Finishing Lime Association of Ohio

MONARCH LINE

National Finishing Lime Plaster—Fibered or Not Fibered

ARCHITECTS are demanding Ohio Finishing Lime Plaster base coats for important buildings. They know that lime plaster excels in acoustics and sound deadening. That it preserves metal lath and is not affected by moisture. They know that the best workmanship can not be secured with quick setting plasters. Architects know that Ohio Finishing Lime excels in every desirable quality. In their desire to secure better plastering they have gladly turned to the authoritative specifications of the Finishing Lime Association of Ohio for base coats of plaster, despite the fact that the hand mixing of hair, lime and gauging materials on the job requires extra labor.

These practical difficulties are now cleared away. MONARCH Finish has pioneered again. For the first time Ohio Finishing Lime is gauged at the factory for a quicker and harder set. Fibered or not fibered as desired, NATIONAL is the only factory mixed ready-to-use finishing lime plaster on the market. Your contractor will not object to NATIONAL Finishing Lime Plaster—it is easier to mix and easier to spread than the hard, dense, sound reflecting and sound transmitting plaster which he has been using. NATIONAL can be machine mixed with sand and water without danger of setting in the mixer.

NATIONAL Finishing Lime Plaster is recommended for use on wood and metal lath or masonry backings. It is not recommended for use on thin gypsum sheets or on compositions which are liable to warp and buckle. It is packed in 50-lb. Bates Multiwall sacks, distinctively trademarked. A fifty pound sack will go as far as an eighty or one hundred pound sack of gypsum plaster, depending on the quality of the sand used. NATIONAL sets much quicker and harder than ungauged lime plaster, but not as quickly as gypsum plaster. The setting time is uniform, permitting the finest workmanship. Droppings can be retempered and used, there is no waste.

NATIONAL Finishing Lime Plaster continues to gain strength for years, on account of the gradual absorption of carbon dioxide from the air. This action continues until the lime has been completely carbonated—until it returns to the porous rock from which it was made.

The National Lime and Stone Co. also manufacture Monarch Masons Hydrate, Agricultural Hydrate and High Magnesian Lump Limes

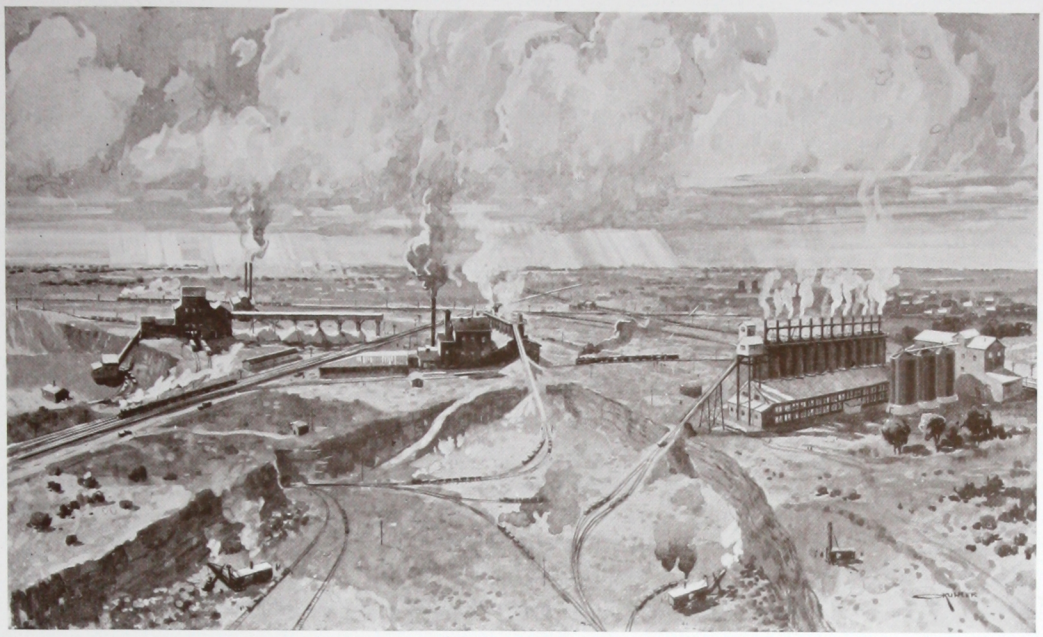
Charter Members of the Finishing Lime Association of Ohio

Monarch Shipping and Traffic Service

THE shipping facilities of the National Lime & Stone Company are equalled by no other Finishing Lime producer. By strategic location, the MONARCH plants are situated right at the junction point of three railroads. The tracks of the Big Four Division of the New York Central cross the Hocking Valley and the Northern Ohio within a few yards of the factories. Connection is made with the Nickel Plate, Baltimore & Ohio, Pennsylvania and Erie Railroads within a few miles of Carey. Cars for loading are always available, annoying delays in the billing of orders are avoided. There is no danger of tying up an important job on account of shipment failures.

An expert Traffic Manager is in charge, and all shipments are routed by the quickest and most direct line and at the lowest obtainable freight rate. Dealers, Contractors and Architects all appreciate this service.

THE MONARCH PLANT TODAY



This is a panoramic view of the National Lime & Stone Company plant at Carey, Ohio, one of the largest and most modern finishing lime plants in the country. Here Monarch lime products are manufactured, tested and shipped to all parts of the United States. This picture shows to some extent the remarkable growth of this institution from its modest beginning as a two kiln plant in 1903, to its present size.

Specifications

PLASTERING ON CONCRETE SURFACES

CEILINGS

National Finishing Lime Plaster Not Fibered ..... 2 sacks, 100 lbs.
Fine Plastering Sand Dry ..... 300 lbs.

Prepare ceiling by brushing or washing free from scale dust, dirt, oil, etc., and then slush down with neat Portland Cement as a primer, or by hacking and roughing surface prepare bond to receive plaster. When this is set, apply coat as thin as possible. (If plane surface is required, it should be provided for in the concrete specifications thru good form work. Do not attempt to fill up uneven places with plaster.) Trowel to finish or texture desired. If white coat is desired add finely screened sand to regular white coat.

WALLS

⅝ inch grounds.

National Finishing Lime Plaster Not Fibered ..... 1 sack, 50 lbs.
Plastering Sand Dry ..... 225 lbs.

Brush or wash surface free from all dirt scale, or foreign matter, and then slush down with neat cement, or by hacking and roughing surface prepare bond to receive plaster. When this is dry apply one coat of this mortar and by adding one more part of sand, apply a second coat, and bring out to grounds. Use rod and darby to bring to even surface. When firm but not dry, rub evenly with float to remove and prevent shrinkage cracks, and prepare surface to receive finish coat. When thoroughly dry apply finish coat.

Note—All interior surfaces of concrete basement walls below ground level should be furred and lathed before plastering.

Note—For first-class work we recommend furring and lathing over concrete surfaces.

THREE COAT WORK ON METAL LATH

Scratch coat shall be composed of:

National Finishing Lime Plaster Fibered ..... 1 sack, 50 lbs.
Plastering Sand Dry ..... 200 lbs.

Brown coat shall be composed of:

National Finishing Lime Plaster Not Fibered ..... 1 sack, 50 lbs.
Plastering Sand Dry ..... 250 lbs.

(Sufficient Fibered National may be used to give some hair in brown coat if desired.)

APPLICATION

(a) Plastering shall be to ⅞ inch grounds.

(b) Apply a coat of scratch mortar evenly and with sufficient force to insure a good clinch and key.

(c) As soon as this coat has become firm but not dry, scratch entire surface with broom or metal scratcher to insure bond for brown coat.

(d) When this coat has become dry apply brown coat and bring surface out to grounds. Rod and darby to true surface and when this coat is firm but not dry, rub evenly with float to eliminate and prevent shrinkage cracks and to prepare surface to receive finish coat.

Specifications

THREE COAT WORK ON WOOD LATH

Scratch coat shall be composed of:

National Finishing Lime Plaster Fibered ..... 1 sack, 50 lbs.
Plastering Sand Dry ..... 200 lbs.

Brown coat shall be composed of:

National Finishing Lime Plaster Not Fibered ..... 1 sack, 50 lbs.
Plastering Sand Dry ..... 250 lbs.

(Sufficient Fibered National may be used to give some hair in brown coat if desired.)

APPLICATION

(*a*) Lath shall be well dampened before applying scratch coat.

(*b*) Plastering shall be to ⅞ inch grounds.

(*c*) Apply a coat of scratch mortar evenly and with sufficient force to insure good clinch and key.

(*d*) As soon as this coat has become firm but not dry, scratch entire surface with broom or metal scratcher to insure bond for brown coat.

(*e*) When this coat has become dry apply brown coat, and bring surface out to grounds. Rod and darby to true surface and when this coat is firm but not dry, rub evenly with float to eliminate and prevent shrinkage cracks, and to prepare surface to receive finish coat.

TWO COAT WORK ON WOOD LATH—(*Doubled up work*)

Scratch coat shall be composed of:

National Finishing Lime Plaster Fibered ..... 1 sack, 50 lbs.
Plastering Sand Dry ..... 200 lbs.

APPLICATION

(*a*) Lath shall be well dampened before applying scratch coat.

(*b*) Plastering shall be to ¾ inch grounds.

(*c*) Apply a coat of this mortar with sufficient pressure to insure a good clinch or key, then by adding one more part of sand to the above mortar double back on the first coat and bring out to grounds, rod and darby to true even surface.

(*d*) When this coat is firm but not dry, rub evenly with float to remove and prevent shrinkage cracks and to prepare the surface to receive the finishing coat.

(*e*) When plaster is thoroughly dry apply finish coat.

Specifications

TWO COAT WORK ON BRICK, TILE, GYPSUM BLOCK, CONCRETE BLOCK, ETC.—(*Doubled Up Work*)

Scratch coat shall be composed of:

National Finishing Lime Plaster Fibered or Not Fibered	1 sack, 50 lbs.
Plastering Sand Dry	225 lbs.

APPLICATION

(*a*) Plastering shall be to ⅝ inch grounds.

(*b*) All surfaces of tile, etc., shall be free from oil, dirt, dust or other foreign matter, and should be wet down before applying plaster.

(*c*) Apply a coat of this mortar with sufficient pressure to insure bond and double back with the same mortar bringing the coat out to grounds, rod and darby to true even surface.

(*d*) When surface is firm but not dry rub evenly with float to remove and prevent shrinkage cracks and to prepare surface to receive finish coat.

(*e*) When plaster is thoroughly dry apply finish coat.

FINISH COATS

White Coat Putty made from Finishing Hydrated Lime shall be soaked twenty-four hours. This is done by screening Monarch Finishing Hydrated Lime into an equal part by volume of clear water and leaving undisturbed.

WHITE SMOOTH FINISH

Thoroly mix gauging and Monarch Finishing Lime putty and apply evenly and trowel to eliminate all checks or chip cracks and uneven points until a true and even surface is obtained.

TEXTURED WHITE FINISH

Thoroly mix gauging and Monarch Finishing Lime putty and apply a very thin coat completely covering the brown coat. Follow this with heavier coat to form texture desired.

SAND FINISH

Mix Monarch Finishing Lime and sand dry and screen thru No. 10 screen unless otherwise specified for specific finishes, and add water and mix to proper consistency.

Apply a thin coat to all mortar surfaces and double back with same mixture and float to true plane surface.

TEXTURED FINISH

Finish in same manner as sand finish, except second coat is applied heavier, and texture desired worked in with tools or hands.

PROPORTIONS

Monarch Finishing Lime	2 sacks, 100 lbs.
Plastering Sand	300 lbs.

Keene's Cement, or highly retarded gypsum may be added to sand finish as a hardener in proportions of 10 to 30 per cent of entire mixture.

Materials

1. FINISHING HYDRATED LIME:

All lime shall be Monarch Finishing Lime, Monarch Finishing Lime Fibered or National Finishing Lime Plaster as manufactured by The National Lime and Stone Company, Findlay, Ohio, meeting the requirements of The American Society for Testing Materials and The Finishing Lime Association of Ohio. These materials to be delivered at the job in the original packages.

2. SAND:

(*a*) Sand for scratch and brown coats shall be clean and coarse and meet the requirements of the tentative specifications for sand for lime plaster of the American Society for Testing Materials.

(*b*) Sand for sand finish shall be a clean, dry screened sand 100% passing a No. 10 mesh screen, unless otherwise specified for specific finishes.

(*c*) Colored screenings and marble dust may be used to obtain color shades.

3. GAUGING MATERIALS:

(*a*) Plaster of Paris shall be clean, fresh and fully calcined, meeting the specifications of the American Society for Testing Materials.

(*b*) When Keene's Cement is used it shall be a standard brand meeting the specifications of the American Society for Testing Materials.

(*c*) When Portland Cement is used it shall be a standard brand meeting the specifications of the American Society for Testing Materials and the Portland Cement Association.

4. WATER:

Water shall be clean and fit for domestic consumption.

5. WOOD LATH:

Wood lath shall be No. 1 White Pine or equal and should be as damp as practicable when mortar is applied. Courses should be broken every eighth course, and all lath laid horizontally and in one direction on ceilings. They shall be nailed securely with 3d nails to each support, and shall cross and have butt joints over a support. Lath shall be spaced 3/8 inch apart. Provide and securely place metal corner beads and metal lath strips in all exterior and interior angles.

6. METAL LATH:

All expanded and fabricated metal lath shall be of an approved brand, applied in accordance with recommendations of Manufacturers.

7. GYPSUM SHEETS OR LATH:

No plaster is more durable than its backing, and we do not recommend the use of these materials. Their disintegration in the presence of moisture can be quickly seen by placing a piece of this material in a bucket of water for twenty or thirty minutes. Durable backings should be used with durable lime plaster.

8. GROUND WORK:

(*a*) Grounds shall be placed and secured prior to the application of plaster. Wood lath and metal lath shall have 3/4 inch or 7/8 inch grounds. Solid backings shall have 5/8 inch grounds.

(*b*) All solid exterior masonry walls shall be furred and lathed. Where type of construction provides an air space, furring and lathing may be eliminated.

(*c*) Furring strips, where used, shall be firmly attached to masonry, and there shall be a space of at least 5/8 inch between lath and masonry.

(*d*) Do not apply plaster over any painted surface.

9 THE USE OF OPEN SALAMANDERS IS NOT PERMITTED:

Finishing Lime Putty

TO obtain the full advantages of Ohio Finishing Lime it is necessary to prepare it properly for use. The requirements are very simple. MONARCH Finishing Lime should be soaked at least twelve hours; longer soaking is preferable, although there is apparently nothing gained by soaking longer than twenty-four hours.

A clean, tight box is half filled with clean water. An equal volume of lime is sifted into the water through a coarse screen, and allowed to settle into the water by its own weight. A piece of metal lath will serve very nicely as a screen. Do not attempt to poke or hoe the lime into the water. Leave undisturbed for the required time, and the resultant putty will be firm and fat, yet it will spread with amazing ease. Poking, hoeing or puddling will almost certainly result in a rubbery, hard-spreading putty.

The only equipment needed is a soaking box and a screen, yet in ninety-five percent of the complaints received on the working qualities of Ohio Finishing Lime it is found that the trouble arose from improper handling at the soaking box. Contractors who appreciate that delays and poor spreading putty run labor costs up very quickly, keep an eye on the soaking box.

Do not use a leaking box—the water runs out, leaving insufficient water to soak the lime.

Do not dump a sack full of lime into one spot in the box and expect the water to penetrate through the resultant thick pile of lime. Screen the lime into the water.

Do not use a dirty box and do not use dirty water.

Do not add too much lime for the amount of water in the box.

The soaking box should be covered after the lime is put to soak—debris of every kind can blow or fall into the box and everything that goes into the putty interferes with the plasterer's trowel or appears in the finished wall.

If the gauged putty does not set up satisfactorily, look to the gauging material used. Lime and water are inert—they do not set. Variance in setting qualities must be due to the setting agent—the gauging material.

Close adherence to these suggestions will result in securing the maximum amount of hoddable putty with the maximum plasticity or ease of spreading.

White Finish should be Prepared as Follows

An amount of Finishing Hydrated Lime putty is circled on a board; water is poured in the circle and gauging plaster sifted into the water. The whole is then thoroughly mixed with a trowel and reduced to a workable condition. In applying hard white finish coats the plasterer should watch carefully for the disappearance of the glaze when the surface becomes slightly dull. When this occurs the coat shall be immediately trowelled down to a smooth, true finish, free from trowel marks, streaks and blotches.

Notes on Finishing Lime Plaster

PLASTERING work is only as good as its bond and failures often occur through improper preparation of the backing to receive the plaster. A careful examination of the job is recommended before applying the plaster. Frame structures should have sufficient rigidity through proper bracing to withstand warping or distortion of frame and should be reinforced to take care of concentrated loads.

The solid partitions and masonry backings should be in alignment.

Finishing Hydrated Lime plaster may be applied to metal lath without danger from corrosion, as lime acts as a preservative for metal.

The best jobs of plaster are done with three coat work.

On three coat work allowance should be made for complete drying between coats.

On two coat work this allowance should be made between the brown and finish coats.

One of the reasons for cracks appearing is shrinkage or setting of the frame.

NATIONAL Finishing Lime Plaster possesses a high degree of elasticity which will in a large measure eliminate cracking.

The curing of plaster is very important and best results are obtained by closing windows and openings to prevent the too rapid drying out in hot weather, as it is necessary to retain a certain amount of moisture to complete the hardening process.

For winter work when artificial heat is used the windows should be lowered about one inch from the top to provide free circulation of air.

Plastered walls should stand until they are well cured before applying decoration.

Mixing the base coats is of great importance and machine mixed mortar gives the best results.

The best results will be secured if NATIONAL Finishing Lime Plaster is machine mixed and dumped and allowed to stand for half an hour before using.

On average sand—fairly dry, 10 number two shovelsfull will weigh approximately 200 pounds.

NATIONAL Finishing Lime Plaster will give the following approximate coverage:

On metal lath—¾" grounds 20—50-lb. sacks per 100 sq. yds.
On masonry—⅝" grounds 11—50-lb. sacks per 100 sq. yds.

On a typical residence job involving 700 yds. of metal lath and 300 yds. of masonry backing, 176 sacks of NATIONAL Finishing Lime Plaster were used, resulting in a plaster job highly pleasing to the owner, who is an architect.

Open salamanders are apt to dry plaster too quickly for setting to take place, resulting in a "dry-out." They should not be permitted.

The trade mark of Quality